

REMARKS

Favorable reconsideration and allowance of this application are requested.

1. Discussion of Amendments

By way of the amendment instructions above, prior claims 13-24 have been canceled and replaced with corresponding claims 25-26, respectively. In this regard, the informalities helpfully identified by the Examiner have been corrected in the corresponding new claims.

New independent claim 25 differs from prior claim 13 in that the former now emphasizes that the hyperbranched polymer is the polycondensation or polyaddition reaction product of one or more building blocks AB₂, which building block AB₂ is glycidol. Support for such amendment can be found on page 4, lines 1-4 and page 16, line 30 of the originally filed specification. In addition, the formula (V-E) of new claim 25 has been specified to be a p-aminobenzoic acid derivative according to the formula shown at the bottom of page 22 of the specification.

The formula and corresponding definitions thereof appearing in claim 30 (corresponding to prior claim 18) have been changed so as to reference the glycidol AB₂ building blocks.

Therefore, following entry of this amendment claims 25-36 will remain pending herein for which favorable reconsideration on the merits is awaited.

2. Information Disclosure Statement Clarifications

The Examiner's observation with respect to the incorrect citation to WO97/123882 in the form PTO/FB/A820 which accompanied the Information Disclosure Statement dated September 20, 2006 is correct. The form PTO/FB/A820 which accompanied the Supplemental Information Disclosure Statement correctly identified

the citation as WO97/12882. In any event, it is noted that both such documents have been considered on their respective merits.

3. Summary of Claimed Invention

The present invention relates to a cosmetic composition comprising a conjugate comprising a hyperbranched polymer covalently bonded to UV-absorbing chromophores. One nontrivial problem confronting the present Applicants was to provide conjugates, which are useful e.g. as sunscreen, comprising hyperbranched polymers, to which UV-absorbing chromophores are covalently bonded, which compounds do not penetrate the skin barrier, which are easy to incorporate into sunscreen compositions, and to which a particular high number of UV-absorbing chromophores is bound, e.g. to result in a high sun protecting factor (SPF) (present application, page 2, paragraphs 3 and 4).

That problem was solved by the Applicants by providing a conjugate comprising a hyperbranched polymer covalently bonded to UV-absorbing chromophores having an UV-absorption maximum $\lambda_{\max} \geq 270$ nm, in which the hyperbranched polymer is **glycidol-based**. In particular, it has been found that such a glycidol-based hyperbranched polymer can be used to bind a high number of UV-absorbing chromophores, resulting in a conjugate which is excellently suited for preparing sunscreens, wherein the conjugates do not penetrate the skin, and which can be easily incorporated into and provide a high number of UV-absorbing chromophores resulting in excellent sun protection.

4. Response to 35 USC §103(a) Rejections

Prior claims 13-18 and 23 attracted a rejection under 35 USC §103(a) as allegedly being “obvious”, and hence unpatentable over Plummer et al (WO/2003/016392, equivalent to US 2005,0038167 to which the Examiner cites). Prior

claims 13-17 and 20-23 also attracted a rejection under 35 USC §103(a) as allegedly unpatentable over Muscat et al (*Topics in current Chemistry*, Vo. 212, 2001, pp 41-80.) Finally, Sunder et al (*Macromolecules*, 1999, 32, pp 4240-4246) was combined with Plummer et al to reject prior claims 13-19 under this same statutory provision. Applicants suggest that neither publication is appropriate as a reference against the presently pending claims herein.

In this regard, Plummer et al discloses a composition comprising dendritic or hyperbranched polymers [0025] which can be chain-terminated with benzoic acid [0036].

It is noted that benzoic acid, which is applied according to Plummer et al as a polymeric chain-stopper, results in benzoates, which are covalently linked to the hyperbranched polymers, which have an UV-absorption maximum of about 225 nm. Thus, it is submitted by the Applicants that the hyperbranched polymers having benzoic acid as polymeric chain-stopper **cannot** be applied as UV sunscreen, and in particular do **not** have an UV-absorption maximum $\lambda_{\max} \geq 270$ nm as required by the claims pending herein. For this reason alone, therefore, Plummer et al cannot render the subject matter of the present application statutorily obvious.

Furthermore, however, Plummer et al simply discloses that a wide variety of functional compounds, among which sunscreens are mentioned, could be incorporated, either by dissolving in the dendritic polymer, dispersing throughout the gel or chemically attaching to the HBP (hyperbranched polymer) ([0044]). Contrary thereto, the present invention relates to a **specific glycidol based hyperbranched polymer**, which is not disclosed in Plummer et al, to which specifically mentioned chromophores having an UV-absorption maximum $\lambda_{\max} \geq 270$ nm are attached, none of which chromophores is mentioned Plummer et al. Thus, the subject matter of the present application cannot be obvious under 35 USC §103(a) in view of the disclosure of Plummer et al.

Nor is the presently claimed invention “obvious” from Muscat et al. In this regard, Muscat at al discloses hyperbranched polyesteramides. Glycidol-based hyperbranched polymers are not disclosed in Muscat et al. Thus, the subject matter of the presently claimed invention cannot be obvious in view of Muscat et al.

As discussed above, the disclosure of Plummer et al differs from the subject matter of the present invention in respect of the hyperbranched polymer and in respect of the chromophore which is to be chemically attached thereto. Sunder et al does not cure this deficiency.

Specifically, Sunder et al discloses that glycidol can be used as AB₂-type monomer to obtain hyperbranched polyglycerols. However, Sunder et al neither discloses cosmetic compositions, nor sunscreens, nor that chromophores can be applied to the resulting hyperbranched polymers such that suitable hyperbranched polymers to be incorporated in cosmetic compositions can be obtained. Sunder et al do not even disclose any chromophores.

Thus, even if one combined the disclosure of Plummer et al and Sunder et al one does not arrive at the subject matter of the present application. As such, the presently claimed invention cannot be obvious under 35 USC §103(a) in view of the combination of Plummer et al and Sunder et al.

Withdrawal of all rejections advanced under 35 USC §103(a) and early passage of this application to issue are therefore solicited.

POSCHALKO et al
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5. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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